

Appl. No. 10/668,724
Response to Office Action mailed July 21, 2005

Atty Dkt. No. 114726-007

LISTING OF CLAIMS

This listing of claims replaces all prior versions and listings of claims in the patent application.

Claim 1 (original): An abrasive substrate provided removably between an abrasive member and a head portion of a carry type abrasive machine,
wherein the abrasive substrate is formed of a synthetic resin molded member which is formed by a single material, and
one portion is different in hardness to another portion of surface to which the abrasive member is attached.

Claim 2 (currently amended): The abrasive substrate according to claim 1, wherein the abrasive substrate is jointed to the head portion, and
a portion where is not contact with the head portion is lower than a portion where is ~~not~~ contact with the head portion in hardness of the surface to which the abrasive member is attached.

Claim 3 (original): The abrasive substrate according to claim 1, wherein a hardness in a peripheral portion of the abrasive substrate is lower than a hardness in a central portion excluding the peripheral portion.

Claim 4 (original): The abrasive substrate according to claim 3, wherein the central portion has a bolt insertion hole for inserting a bolt which is used to fix the abrasive substrate to the head portion, and projections disposed around the bolt insertion hole.

Claim 5 (currently amended): The abrasive substrate according to claim 1, wherein the abrasive substrate is formed by a ~~rotating~~ disk.

Claim 6 (currently amended): The abrasive substrate according to claim 1, wherein the abrasive substrate is formed by a ~~vibrating~~ polygonal plate.

Appl. No. 10/668,724
Response to Office Action mailed July 21, 2005

Atty Dkt. No. 114726-007

Claim 7 (original): The abrasive substrate according to claim 6, wherein each hardness of portions where are respectively close to vertexes of the abrasive substrate is lower than a hardness of a central portion excluding the portions where are close to vertexes.

Claim 8 (original): The abrasive substrate according to claim 1, wherein the abrasive member is an abrasive cloth or an abrasive paper.

Claim 9 (original): The abrasive substrate according to claim 1, wherein a difference in the hardness between the central portion and the peripheral portion is regulated by a concavo-convex formed on a surface at a fixing side to the head portion of the carry type abrasive machine.

Claim 10 (original): The abrasive substrate according to claim 9, wherein the concavo-convex is formed by a plurality of rib-shaped projections molded on the same plane.

Claim 11 (original): The abrasive substrate according to claim 10, wherein the rib-shaped projections are extended radially from a support central part of the head portion of the carry type abrasive machine toward a periphery.

Claim 12 (original): The abrasive substrate according to claim 11, wherein the rib-shaped projections are formed in a multistage from the support central part toward the periphery.

Claim 13 (original): The abrasive substrate according to claim 10, wherein the rib-shaped projections are extended along a plurality of concentric circles around a support center of the head portion of the carry type abrasive machine.

Claim 14 (original): The abrasive substrate according to claim 11, wherein the rib-shaped projections are extended along a plurality of concentric circles around a support center of the head portion of the carry type abrasive machine.

Appl. No. 10/668,724
Response to Office Action mailed July 21, 2005

Atty Dkt. No. 114726-007

Claim 15 (original): The abrasive substrate according to claim 10, wherein a height of the rib-shaped projection in the peripheral portion is set to be smaller than a height of the rib-shaped projection in the central portion.

Claim 16 (original): The abrasive substrate according to claim 9, wherein the concavo-convex is formed by a plurality of projections having different sizes which are molded on the same plane.

Claim 17 (original): The abrasive substrate according to claim 1, wherein a plurality of male engaging elements which enables to join to and separate from the abrasive member are integrally formed with the abrasive substrate on a surface of the abrasive substrate at a fixing side to the abrasive member.

Claim 18 (original): The abrasive substrate according to claim 1, wherein a surface of the abrasive substrate at a fixing side for the abrasive member is rough.